

U.S. Patent Application No. 10/009,760
Reply to Office Action dated May 16, 2006

PATENT
450101-03158

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Original) An image pick-up apparatus for picking up an image of object, the image pickup apparatus comprising:

image pick-up means having a light receiving surface for receiving light from the object to carry out photo-electric conversion, and adapted to output pixel value obtained as the result of the photo-electric conversion;

evaluating means for evaluating the pixel value; and

control means for controlling, in pixel units, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating means.

2. (Currently Amended) The image pick-up apparatus as set forth in claim 1, wherein the evaluating means evaluates whether or not the pixel value is a value within a predetermined range; and

wherein when the pixel value is not a value within the predetermined range, the control means controls exposure time with respect to pixel of the light receiving surface corresponding to that pixel value so that the pixel value is caused to be value within the predetermined range.

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3. (Original) The image pick-up apparatus as set forth in claim 2, wherein the control means is operative so that when the pixel value is a predetermined value or more, it shortens exposure time with respect to pixel of the light receiving surface corresponding to that pixel value.

4. (Original) The image pick-up apparatus as set forth in claim 2, wherein the control means is operative so that when the pixel value is less than a predetermined value, it elongates exposure time with respect to pixel of the light receiving surface corresponding to that pixel value.

5-7. (Canceled)

8. (Original) The image pick-up apparatus as set forth in claim 1, which further comprises correcting means for correcting the pixel value that the image pick-up means outputs on the basis of exposure time of pixel corresponding to that pixel value.

9. (Original) The image pick-up apparatus as set forth in claim 8, which further comprises memory means for storing plural pixel values that the image pick-up means outputs and exposure times of respective pixels corresponding to those plural pixel values, wherein the correcting means is operative so that when the longest time of the plural exposure times stored in the memory means is assumed to be $1/S_{BASE}$ and exposure time of pixel value stored in the memory means is assumed to be $1/S$, it multiplies the pixel value stored

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in the memory means by S/S_{BASE} to thereby correct the pixel value.

10. (Original) The image pick-up apparatus as set forth in claim 8, which further comprises a display control section for displaying picture image on a display section for displaying picture image in accordance with pixel value corrected at the correcting means.

11. (Canceled)

12. (Canceled)

13. (Original) The image pick-up apparatus as set forth in claim 1, which further comprises memory means for storing plural pixel values that the image pick-up means outputs and exposure times of pixels corresponding to the respective pixel values in such a manner to correspond to each other.

14. (Original) An image pick-up method of picking up image of object, the image pick-up method comprising:

an evaluation step of evaluating pixel value acquired from an image pick-up section having a light receiving surface for receiving light from the object to carry out photo-electric conversion and adapted to output the pixel value obtained as the result of the photo-electric conversion; and

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a control step of controlling, in pixel units, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluation step.

15. (Currently Amended) A program recorded on computer-readable media, that when executed causes the computer to perform~~for allowing computer to carry out~~ image pick-up processing for picking up image of object, the program including:

an evaluation step of evaluating pixel value acquired from an image pick-up section having a light receiving surface for receiving light from the object to carry out photo-electric conversion and adapted to output the pixel value obtained as the result of the photo-electric conversion; and

a control step of controlling, in pixel units, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluation step.

16. (Original) A program recording medium adapted so that program for allowing computer to carry out image pick-up processing which picks up image of object is recorded, wherein there is recorded program comprising:

an evaluation step of evaluating pixel value acquired from an image pick-up section having a light receiving surface for receiving light from the object and adapted to output pixel value obtained as the result of the photo-electric conversion; and

a control step of controlling, in pixel units, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluation step.

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17. (Canceled)

18. (Canceled)

19. (Original) An image pick-up control apparatus for controlling an image pick-up section having a light receiving surface for receiving light from object and adapted to output pixel value obtained as the result of the photo-electric conversion, the image pick-up control apparatus comprising:

an evaluating section for evaluating the pixel value; and

control means for outputting, to the image pick-up section, a control signal for controlling, in a predetermined surface unit, exposure time with respect to the light receiving surface on the basis of evaluation result by the evaluating section.

20-38. (Canceled)